

HIAS MOODLE+ RESOURCE

Science Vocabulary Year 4

**Word lists and classroom prompts to
support the vocabulary taught in the
Hampshire Science Learning Journeys**

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Overview

This document contains...

Classroom prompts to support the teaching of the key vocabulary in the Hampshire Science Learning Journeys.

Points to consider when using this resource

The words that children are exposed to within science can be split into two categories: the technical and non-technical. Technical words which are specific to a science subject or discipline: respiration and genes in biology; resistance and voltage in physics; mass and substance in chemistry. Non-technical words, when used in science, can have a meaning specific to the context in which it is being used. It is no wonder then, why children can find understanding of vocabulary within science challenging and sometimes confusing if a word they already know means a different thing within science.

It is therefore vital, that the language used within science lessons is appropriate. Vocabulary needs to be carefully considered and leaders should decide on how easy and accessible the meaning, of such vocabulary that will be shared with children, is.

Teacher will need to be mindful of how some words change their meaning within a science context and will need to carefully explain these words and their varied meanings.

This set of classroom prompts aim is to support children's understanding of the meaning of key words within the Learning Journeys.

Year 4 Key Vocabulary Lists

Mixtures and separating them

Substance	A type of matter with uniform properties
Mixture	A number of substances together but can be separated
Dissolving	To become incorporated into a liquid
Solution	The product of when a substance is dissolved into a liquid

Digestion

Meat	The flesh of an animal, usually a mammal or bird for eating
Dairy	Food that contains or is made from milk
Protein	A nutrient found in food used for growth and repair of the body
Grains	A small hard seed harvested from crops, e.g. cereals, used to make food
Root vegetable	An enlarged root of a plant that can be eaten, e.g. carrot, swede or beetroot
Carbohydrates	A nutrient in food that is used for energy in the body
Fat	A nutrient in food that is used for energy and insulation in the body
Insulation	To prevent heat lost from the body
Fruits	The sweet and fleshy part of a plant that contains seeds and eaten as food
Minerals	A nutrient needed by the body to carry out functions of life, found in food
Vitamins	A nutrient needed in small amounts for the proper function of life
Fibre	A component of food that isn't broken down by the body but used to help move food through the digestive system
Healthy	In good physical/mental condition
Digestion	The breaking down food inside the body so nutrients can enter the blood

Plant reproduction

Pollination	The transfer of pollen from one plant to another
Seed (from yr 1 'Plants')	The small, hard part of a plant from which a new plant grows.
Stamen	The male part of the flower which contains the pollen
Stigma	The female part of the flower that receives the pollen
Ovaries	A female part of the plant where the pollen must reach to create the seed
Petals	The segments of a flower that are usually brightly coloured
Dispersal	The spreading of seeds in a variety of ways
Germination (from yr 1 'Plants')	The growth of a seed into a young plant or seedling

Making electrical circuits work

Electricity	A form of energy that flows around a circuit
Batteries	A store of chemical energy
Mains electricity	Electricity supplied to a building through wires
Device	Any machine powered by electricity
Wires	A long thin piece of conducting metal that electricity can flow through
Circuit	A connection of electrical devices, wires and a power supply
Conductor	A material that will allow electricity to flow through it
Insulator	A material that will not allow electricity to flow through it

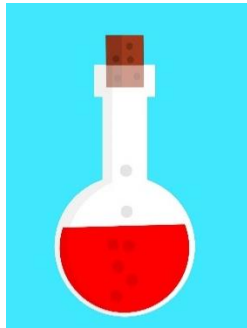
Living things

Classification	The grouping of animals, plants or fungi based upon their physical features
Classification key	a series of questions to identify animals or plants based upon their physical features
Vertebrates (from yr 3 'Animal skeletons and movement')	A group of animals that have an internal backbone, e.g. humans, elephants, dolphins
Invertebrates (from yr 3 'Animals, skeletons and movement')	A group of animals that do not have a backbone, e.g. Lobsters, woodlice, worms, beetle or snail
Food chain (from yr 1 'Animal Survival')	Describes the order in which living things depend on each other for food.
Nutrients (from yr 3 'Plant food production')	A substance that provides the essential material needed by the body to live
Organism (from yr 1 'Animal Survival')	A living thing, e.g. animal, plant, fungi
Mammal (from yr 1 'Animal Survival')	An organism that is warm blooded, have fur, feeds their young milk and give birth to live young
Amphibian (from yr 1 'Animal Survival')	A cold-blooded animal that starts life living underwater with gills but as an adult, lives on land using lungs
Insect	A small animal that has six legs and often one or two pairs of wings
Bird (from yr 1 'Animal Survival')	A warm-blooded animal that has feathers, wings, and a beak.
Environmental change	A change or disturbance of an environment- can be caused by natural or man-made reasons

Year 4 Mixtures and separating them

Substance noun

Definition: a type of matter with uniform properties



Example: **Substances** are physical things that can be seen, touched, or measured.

Word origin:
from Latin *substantia* 'being, essence'

Mixture noun

Definition: a number of substances together but can be separated

Example: A **mixture** is a material made up of two or more different substances which are not chemically combined.



Synonyms: mix, concoction, combination

Dissolving verb

Definition: to become incorporated into a liquid



Example: Substances that ***dissolve*** in water are called soluble substances.

Word origin:

from Latin *dissolvere*, from *dis-* 'apart' + *solvere* 'loosen or solve'

Solution noun

Definition: the product of when a substance is dissolved into a liquid



Example: Substances that are combined to form a ***solution*** do not change into new substances

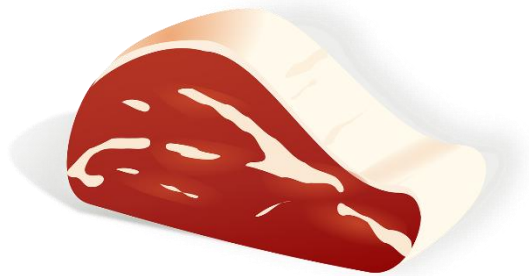
Type: Seawater, sweetened tea

Synonyms: Mixture, blend

Year 4- Digestion

Meat noun

Definition: the flesh of an animal, usually a mammal or bird for eating



Example: *Meat* is a good source of protein.

Synonyms:
Flesh, muscle

Word origin:
Old English *mete*
'food'

Dairy noun

Definition: food that contains or is made from milk



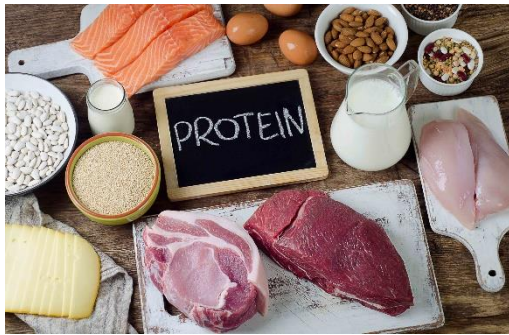
Example: *Dairy* products are great sources of protein and calcium.

Non-example:
Soy, oat milk,

Type: milk,
yoghurt, cream,
butter, cheese

Protein noun

Definition: a nutrient found in food used for growth and repair of the body



Example: *Protein* is an essential part of a healthy diet.

Word origin:
from Greek *prōteios*
'primary'

Type: Lean
meat, fish,
eggs, milk

Grains noun

Definition: a small hard seed harvested from crops, e.g. cereals, used to make food



Example: Any food made from wheat, rice, oats, cornmeal, barley is a *grain* product.

Non-example:
Sesame seeds,
quinoa, lentils

Type: popcorn,
rice and oatmeal

Root vegetable noun

Definition: an enlarged root of a plant that can be eaten, e.g. carrot, swede or beetroot



Example: *Root vegetables* grow underground; they absorb a great amount of nutrients from the soil.

Carbohydrates noun

Definition: a nutrient in food that is used for energy in the body



Example: *Carbohydrates* are broken down by the body into simple sugars

Types: Grains, bread, cereals, vegetables, fruit contain carbohydrates

Word origin: Mid 19th century from *carbo-* + *hydrate*.

Fat noun

Definition: a nutrient in food that is used for energy and insulation in the body

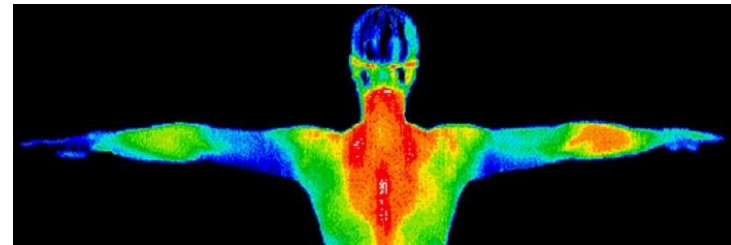
Example: Unsaturated *fats* are often called 'healthy fats' as they help reduce heart disease and lower cholesterol levels.



Types: Naturally found in animal products, nuts, seeds, grains and some fruits such as olives and avocados.

Insulation noun

Definition: to prevent heat lost from the body



Example: Fat is important to *insulate* the body.

Word origin:

from late Latin *insulatus* "made like an island," and in electrical/chemical sense "block from electricity or heat" is from 1742

Fruits noun

Definition: the sweet and fleshy part of a plant that contains seeds and eaten as food



Example: Fruits provide vitamins, minerals, dietary fibre and many nutrients to help your body stay healthy.

Word origin: from Latin *fructus* 'enjoyment of produce, harvest'

Minerals noun

Definition: a nutrient needed by the body to carry out functions of life, found in food



Example: Minerals, such as calcium, are essential for building strong bones and healthy teeth.

Types:

Calcium, zinc, potassium, iron, fluoride, magnesium.

Vitamins noun

Definition: a nutrient needed in small amounts for the proper function of life



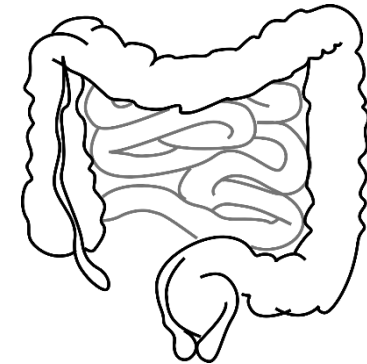
Example: Most people get all the **vitamins** they need from a healthy diet.

Word origin: from Latin *vita* 'life' + *amine* because vitamins were originally thought to contain an amino acid.

Fibre noun

Definition: a component of food that isn't broken down by the body but used to help move food through the digestive system

Example: **Fibre** is important for bowel regularity and gut health.



Found in...
...plant foods like whole grain bread, cereals, nuts, seeds, fruits and vegetables.

Healthy adjective

Definition: in good physical/mental condition

Example:
Staying healthy means taking care of your body and your mind

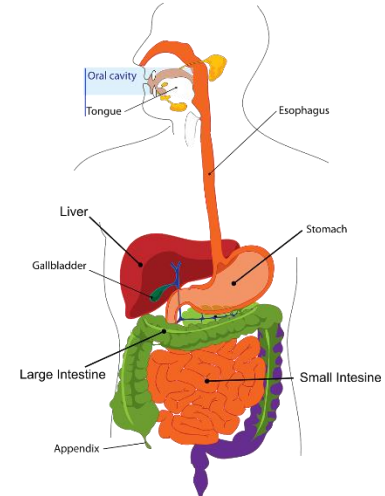


Synonyms: well, fit,

Digestion noun

Definition: the breaking down food inside the body so nutrients can enter the blood

Example:
There are many organs in the **digestive** system each with a particular job to do.

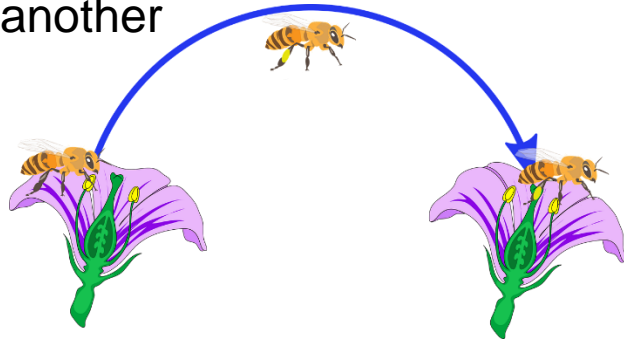


Main organs in the digestive system: mouth, oesophagus, stomach, small intestine, large intestine, rectum and anus.

Year 4- Plant reproduction

Pollination noun

Definition: the transfer of pollen from one plant to another



Example: Pollination is a very important part of the life cycle of plants.

What is pollen? A small, powdery substance that normally has a yellowish colour which high in sugar and protein.

Seed noun

Definition: the small, hard part of a plant from which a new plant grows



Example: The outer shell of a **seed**, called a seed coat, protects the inside.

Synonyms:
kernel, pip, pit,
grain, nut

Word origin:
from Old English
sed

Stamen noun

Definition: the male part of the flower which contains the pollen



Example: The **stamen** is made up of the *anther*, where the pollen is made, and the *filament*, the stalk.

Stigma noun

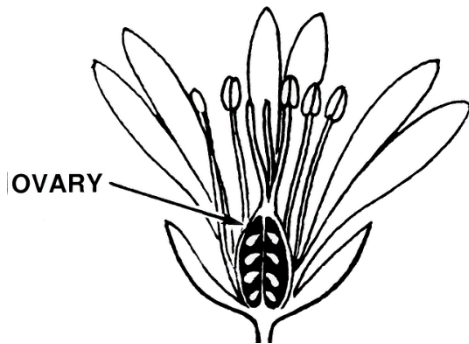
Definition: a female part of the flower that receives the pollen



Example: The **stigma** has a sticky surface to help the pollen attach.

Ovaries noun

Definition: a female part of the plant where the pollen much reach to create the seed



Example: The **ovary** of a flower is located at the base of the pistil.

Word origin:

from Latin ovum 'egg'

Petals noun

Definition: the segments of a flower that are usually brightly coloured



Example: **Petals** are modified leaves that surround the reproductive parts of flowers.

Word origin:

from Greek *petalon* 'leaf'

Dispersal noun

Definition: the spreading of seeds in a variety of ways



Example: Dispersal of seeds is very important for the survival of plant species.

Modes: gravity, wind, water, explosion and animals

Germination noun

Definition: the growth of a seed into a young plant or seedling

Example: All seeds need moisture, oxygen and the right temperature for germination.



Word origin: from Latin *germināre* to sprout

Synonyms: sprout, form, develop, emerge

Year 4- Making electrical circuits work

Electricity noun

Definition: a form of energy that flows around a circuit

Example:
Electricity is dangerous, so be careful when using electrical appliances.



Word origin: English scientist William Gilbert established the science underlying the study of electricity

Synonyms: power, current, energy

Batteries noun

Definition: a store of chemical energy

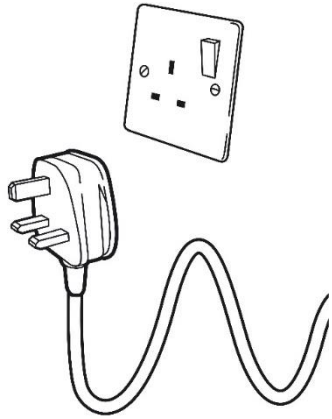
Example:
Batteries are used in toys, remote controls, mobile phones, alarm clocks and even doorbells.



Battery or cell? A cell is a single unit device which converts chemical energy into electric energy. A battery usually consists of group of cells.

Mains electricity noun

Definition: electricity supplied to a building through wires



Example: Mains electricity is when items are plugged into electrical wall sockets. These normally need a higher amount of energy.

Device noun

Definition: any machine powered by electricity.



Example: Electrical devices can be powered by either mains electricity or batteries.

Non examples:

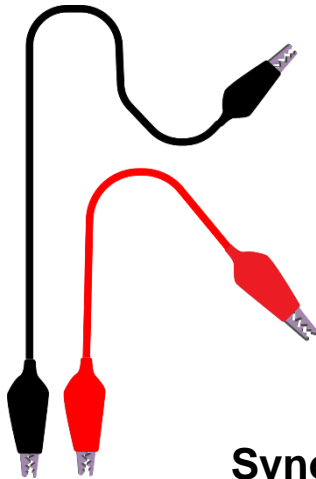
Bottle opener,
door lock,
stapler

Synonyms:

gadget, appliance,
equipment,
machine

Wires noun

Definition: a long thin piece of conducting metal that electricity can flow through



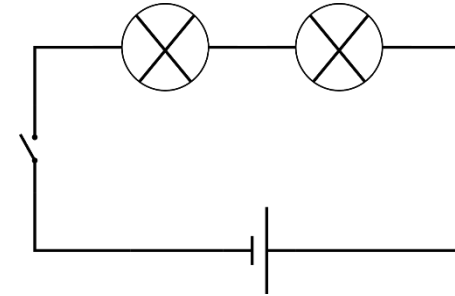
Example:
The outside of an electrical **wire** is coated with an insulator.

Synonyms: cable, lead

Word origin: Old English *wir* 'metal drawn out into a fine thread'

Circuit noun

Definition: a connection of electrical devices, wires and a power supply



Example: An electrical **circuit** is a path in which electrons from a voltage or current source flow.

Word origin: from Latin, *circumire* 'around' + *ire* 'go'

Conductor noun

Definition: a material that will allow electricity to flow through it



Example: Most metals, like iron and copper, are electrical **conductors**.

Word origin: from Latin *conduct-* 'brought together'

Insulator noun

Definition: a material that will not allow electricity to flow through it



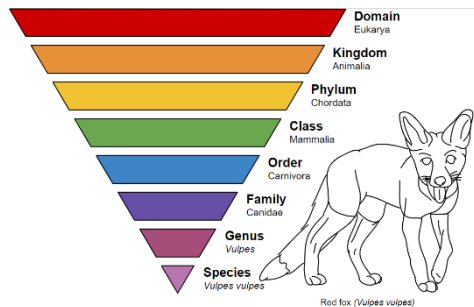
Example: Wires that carry electric currents are made of an **insulator**, so the electricity goes to the right place.

Synonyms: non-conductor, protector, resistant material

Year 4- Living things

Classification noun

Definition: the grouping of animals, plants or fungi based upon their physical features

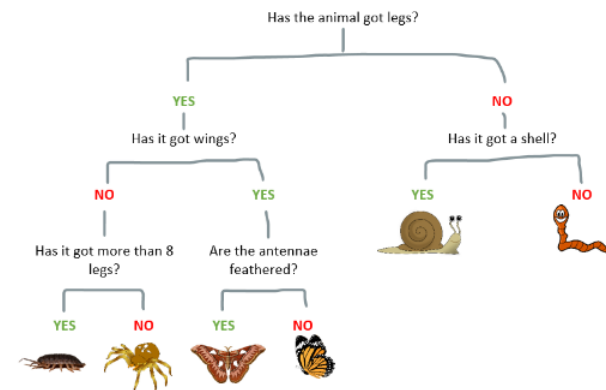


Example: Biological **classification** is also known as taxonomy.

Synonyms: grouping, sorting, categorising, classing, organising

Classification key noun

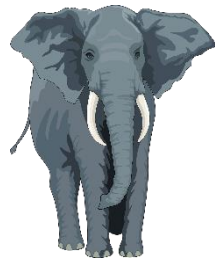
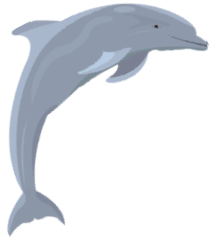
Definition: a series of questions to identify animals or plants based upon their physical features



Example: **Classification keys** can help identify unknown organisms.

Vertebrates noun

Definition: A group of animals that have an internal backbone, e.g. humans, elephants, dolphins



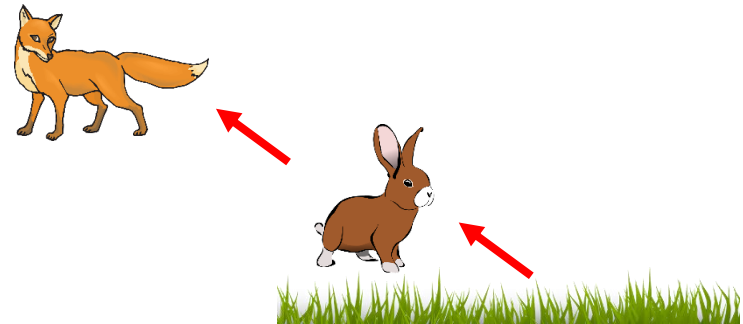
Example: Fish are the oldest known *vertebrates*.

Non-examples:
octopus

Word origin:
from Latin
vertebratus 'jointed'

Food chain noun

Definition: describes the order in which living things depend on each other for food.



Example: When animals eat, the energy in the food passes along a food chain.

Synonym: energy source diagram

Nutrients noun

Definition: a substance that provides the essential material needed by the body to live



Example: Fruits and vegetables have important **nutrients**.

Synonyms: food, vitamin, supplements, mineral, healthy diet

Organism noun

Definition: A living thing, e.g. animal, plant, fungi



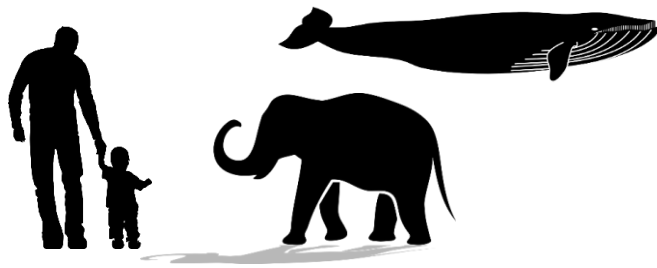
Example:

The same kind of **organisms** are called a species.

Synonyms: being, creature, animal, plants, life form

Mammal noun

Definition: an organism that is warm blooded, have fur, feeds their young milk and give birth to live young



Example: Mammals are among the most intelligent of all living creatures.

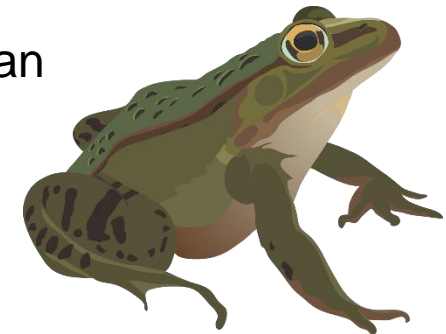
Non-examples:
lizard

Synonyms:
animal, creature,
vertebrate

Amphibian noun

Definition: a cold-blooded animal that starts life living underwater with gills but as an adult, lives on land using lungs

Example:
Amphibians can breathe and absorb water through their very thin skin.



Types:

Frog, toad, newt, salamander

Insect noun

Definition: a small animal that has six legs and often one or two pairs of wings

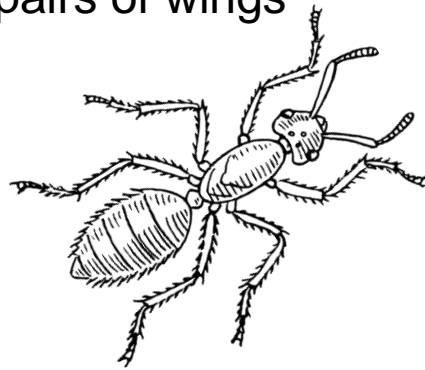
Example:

The body of a typical adult

insect is

divided into

head, thorax (bearing the legs and wings), and abdomen.



Types: ants, bees, wasps, beetles, butterflies, cockroaches, crickets, dragonflies, moths, spiders and flies

Bird Noun

Definition: a warm-blooded animal that has feathers, wings, and a beak



Example: Bird's feathers have three functions: flight, temperature regulation and display.

Synonyms: fowl, game, chick, fledgling, poultry

Environmental change

Noun

Definition: a change or disturbance of an environment- can be caused by natural or man-made reasons



Example: since the 1800s, human activities have been the main driver of

environmental change, primarily due to burning fossil fuels like coal, oil and gas.

Invertebrates

noun

Definition: A group of animals that do not have a backbone, e.g. Lobsters, woodlice, worms.



Example: most of the animals on Earth are ***invertebrates***

Non-example:
Snake

Word origin:
from in- 'without'

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